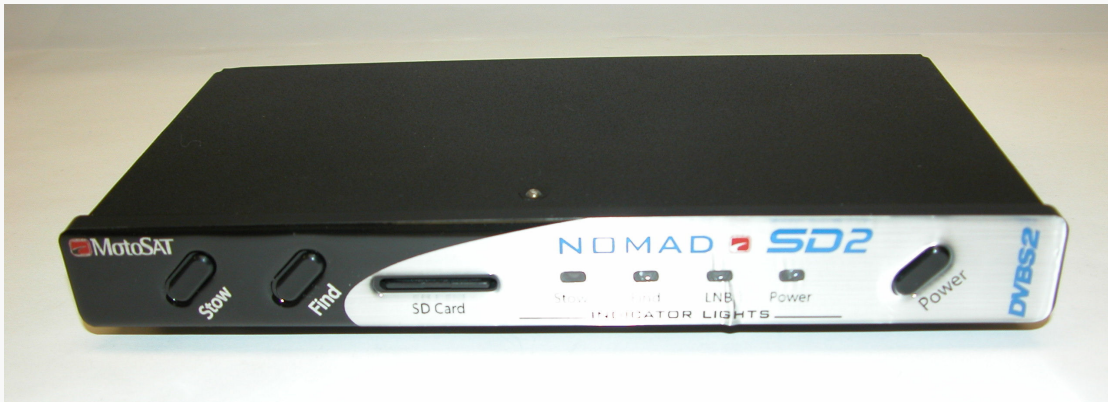




**Satellite TV**

# Nomad SD2 USER GUIDE



**Software Version 100 or higher**

**ALL RIGHTS RESERVED**  
901-Nomad SD2 Manual

Rev 4 Mar , '10

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# MOUNT ROTATIONAL DEFINITIONS

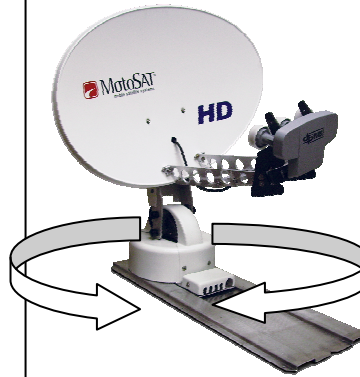
## ELEVATION

(Raising of the dish from the stowed position)



## AZIMUTH

(Rotation of the mount on the base plate)



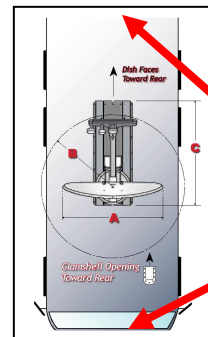
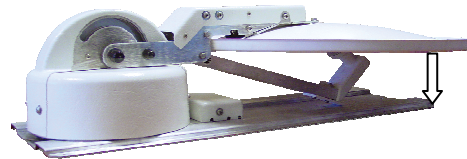
## SKEW

(Rotating or tilting of the dish from side to side)



## STOW

(Travel Position)



**Installation  
Orientation**

**REAR**  
**FRONT**

## COMPONENT AND FUNCTIONAL DEFINITIONS

**Mount** – Consisting of the dish and the mechanics to move the dish

**Nomad SD2** - Positioner, Controller or Control Box

**LNB** – The device in front of the dish that receives the satellite signal

**Control Cable** – The 9 conductor cable that connects the Mount to the Nomad SD2

**SD Card** – The data storage device which provides software and configuration updates

**Azimuth Motor** – The motor on the mount that controls azimuth movement

**Elevation Motor** – The motor on the mount that controls elevation movement

**Skew Motor** – The motor on the mount that controls skew movement

**Scotch Locks** – The devices used to splice electrical wires within the mount assembly

**BLUE LIGHT** – The illumination of the dish face that signifies MotoSAT quality and excellence

**LED** – The lights on the front panel of the Nomad SD2 that indicates system status

**Software** – Code which instructs the mount to move, locate and identify satellites

**Configuration** – The instruction that tells the mount which satellites to identify. This can be accomplished from either from the front panel or with the use of the SD card

**Log Files** - Diagnostic files stored on the SD card for monitoring the system as it goes through its various routines

**800-247-7486** – The number to call if you have any questions concerning your system operation

# FEATURES

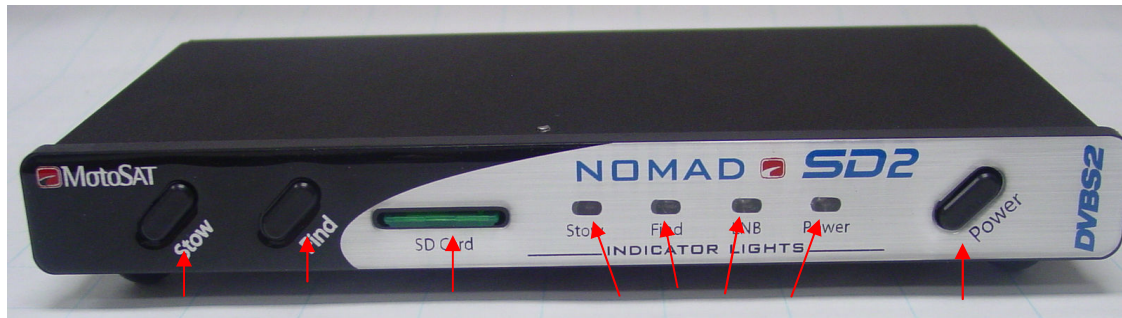
Your Nomad SD2 Controller has many features that make finding satellites easier. All of the manual pointing and identification of your satellite antenna are taken care of by the Nomad SD2. After your controller has been installed configured properly you have to only turn ON the POWER and push either FIND (to send your antenna into a search for the proper satellite(s)) or STOW to bring your antenna into the proper stowed position for traveling. Your controller has many features that will assist you in acquiring and identifying satellites. Here are some of them:

- Fully configurable through the front panel or optional .dat file (see Programming Using the Front Panel in this manual.)
- Software upgrades can be done using the SD Card provided with your controller (see Programming Using the SD Card in this manual.)
- Controller operates on 12 VDC.
- Controller automatically shuts itself off when the antenna is stowed.
- New software is automatically detected when SD Card is placed into the controller and loaded in 15 seconds after the power is turned on.
- Controller may be configured to operate any open faced TV system MotoSAT manufactured.
- Controller may be configured to select satellite configurations for DirecTV, Dish Network, SHAW Direct and Bell ExpressVu.
- GPS option may be added to assist in satellite acquisition.

The Nomad SD2 contains Operational Features such as:

- Two (2) button operation, FIND and STOW.
- LED Display to indicate LNB power, FIND, STOW and POWER status.
- Error Code displays.
- Automatic STOW feature on every system..... it is called “the first overpass”. Just checking to see if you are reading the manual (smile.)
- Ability to take advantage of upgrades is software by going to [www.motosat.com](http://www.motosat.com) and downloading new software onto an SD Card and putting it into your controller.
- Return to Last Satellite. This feature eliminates the blind search that is required when you have moved to a new location. Once you have found the satellite it will simply return to that location after you have stowed the antenna. It will do this in less than 3 minutes.
- Your open faced MotoSAT system will illuminate the dish with a soft blue glow from a blue LED on the mount. It may be turned off after the antenna has been deployed by turning off the Nomad SD2.
- Power does not have to be on to the controller once it has found satellite.
- No accidental deploying of the system. Power must be turned ON and then you can select either FIND or STOW. The FIND button sends the antenna UP. The STOW button puts the antenna DOWN.
- The antenna stows to a height of 10 ½ inches (below your air conditioner height.)
- A mounting plate that attaches to your roof will disperse the wind loading created by the antenna during wind gusts.
- All of the electronics that control the antenna are located inside your RV.
- The system works off of 12 VDC with less than 3 amp draw during movement of the antenna.

# FRONT VIEW



**STOW   FIND   SD Card   Status Indicators   Power**

The Front Panel consists of three buttons; **STOW**, **FIND** and **POWER**. It also has 4 LED indicators; STOW, FIND, LNB and POWER.

## BUTTONS

**STOW:** This button will return the dish to the “STOWED” position. It also works in conjunction with the FIND button to put the unit into “Test Dish Mode.”

**FIND:** This button will start the Nomad SD2 searching for satellite. It also works in conjunction with the STOW button to put the unit into Test Dish mode.

**POWER:** This button turns the power to the Nomad SD2 ON and OFF.

## LED's

**STOW:** When the Nomad SD2 is in Test Dish mode or in process of stowing the dish, this LED indicator **blinks**. It is on continuously when a dish is properly stowed.

**FIND:** When the Nomad SD2 is searching for a satellite, this LED indicator will **blink**. When this indicator is ON continuously, the Nomad SD2 has completed its search and is **locked** onto a satellite.

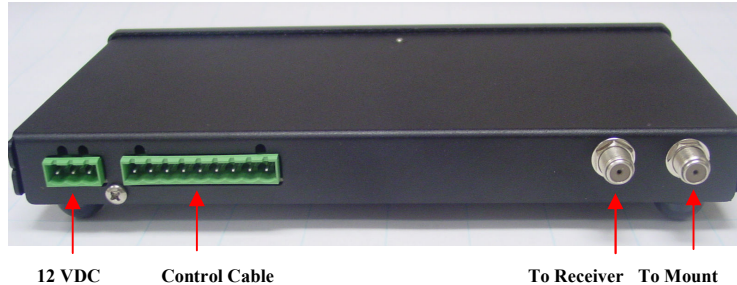
**LNB:** When the controller is searching for satellites this LED is **ON**. The power is supplied to the LNB by the Nomad SD2 Controller during this time. Once the controller has locked onto the satellite(s), the LNB receives its power from the satellite receiver if the satellite receiver is linked to the mount through the Nomad SD2 (this link is optional.)

**Power:** This LED indicates to the user that the Nomad SD2 Controller is **ON**.

## SD Card Slot

This card slot receives a Multimedia Card (MMC) or a Secure Digital Card (SD). Push in to insert the card. Push in then pull out to remove the card. The SD Card does not have to be inserted for operation of the system. It is used for loading of software and capturing data.

# REAR VIEW



The Rear Panel consists of a **MAIN POWER** and **CONTROL CABLE** connector, **TO RECEIVER** and **TO MOUNT** F-Connectors.

## CONNECTIONS

**12 VDC:** This connector provides the +/- 12 volt DC input power to the controller.

**Control Cable:** This connector sends +/- 12 volt DC power to the motors and receives positioning information from the dish

**To Receiver:** This connector is connected to the Satellite Receiver (see label on the bottom of the Controller.)

**To Mount:** This connector is connected to the Roof Mount to provide LNB power (see label of the bottom of the Controller.)

**NOTE:** For  **DirecTV** 5 LNB Slim Line High Definition Receivers that require a B-Band Converter, install it *between* the controller and the Mount.

For **Dish Network** Receivers that use the Separator, install it *between* the controller and the receiver.

# OPERATION

The following is a basic operation of the Nomad SD2 Controller.

## POWER UP the Nomad

After making all the proper connections of the Nomad SD2 into the system, simply turn on the power using the POWER button. The unit will initiate self test routines. This will take a few seconds. The FIND and STOW LED's will illuminate during this time to perform a lamp test. If either one of these LED's does not turn on during this time the unit should be repaired. Once the initializing routine has finished, the front panel LED display will indicate the status of the dish. The "FIND" LED will be illuminated if the dish is on satellite. If the "STOW" LED is illuminated the dish is in the stowed position. If the "LNB" LED is lit the satellite receiver is connected to the controller and has power to it. If the dish status is unknown, neither the FIND nor STOW LED will be illuminated. In this case either stow the dish or perform a Test Dish before proceeding.

## TESTING the Dish

First time operation of the Nomad SD2 controller requires the user to execute a Test Dish. To execute a Test Dish routine, turn ON the power and press the STOW and FIND buttons simultaneously. The controller will perform a full test dish operation and determine the type of mount that is being used. The STOW LED will flash during this operation. Once the Test Dish operation is complete, the dish will be in the stowed position and the STOW LED will be illuminated continuously. If the mount type conflicts with the current network configuration, a critical error will be flagged and the unit will not operate. See "Memory Card" and "Configuring" for more details. Two minutes after the completion of a Test Dish, the Nomad SD2 will shut itself down automatically if there is no other activity.

## FINDING a Satellite

To search for a satellite,

Press the FIND button **once** and the dish will read GPS, if installed, and begin to rise and **search** for the desired satellite as defined by the network configuration or Return to Last Known Satellite location. The FIND LED will flash during this time. Once the controller has locked on satellite, the FIND LED will be illuminated continuously.

Press the FIND button once **and then press it again** and hold it for 3 seconds. This will bypass Return to Last Known Satellite location. If the GPS has failed to read it will also bypass the GPS and do a regular search routine.

## STOWING the Dish

To stow the dish (place it into the travel position) press the STOW button once and the controller will begin to return the dish to the travel position. The STOW LED will flash while stowing. The STOW button can be pressed anytime during the search for and after locking on a satellite. Once the dish is stowed, the controller will shut itself down automatically.



## SD MEMORY CARD

The system will operate properly with or without the memory card inserted. The card has two Functions.

1. Upgrading the latest firmware (obtained from [www.motosat.com](http://www.motosat.com) ) when it is placed into the Root Directory.
2. Create and record data which will aid in troubleshooting (LOGFILES.) This file is automatically created each time the system is stowed.

The card is inserted by pushing the card into the slot until it clicks into place. To remove the card, depress the card once again and the socket will eject the it. Then simply remove it the rest of the way. Never remove a card while the Disk Busy LED is illuminated. **Any MMC or SD Card can be used as long as it is formatted to **FAT32** file format.**

## STEPS TO PERFORM A FIRMWARE UPGRADE

1. The Nomad SD2 Controller can be upgraded manually by simply copying the latest firmware upgrade into the Root Directory of the SD memory card using a computer capable of utilizing SD Memory Cards. Be sure to copy the file into the SD card "root directory" and not into a subdirectory or folder. You can find the latest firmware upgrade for the controller on our web site at: [www.motosat.com](http://www.motosat.com).
2. **Stow the dish.**
3. Power OFF the controller then insert the SD memory card into the card slot in the front of the unit.
3. Power ON the controller. The Nomad SD2 Controller will detect the upgrade and automatically install the new upgrade code.

**After a FIRMWARE UPGRADE is complete, a TEST DISH must be performed. Failure to do so could result in the systems inability to perform properly.**

During the upgrade process, the FIND and STOW LED's will *flash* alternately indicating that programming is taking place. **DO NOT remove the SD memory card from the Controller until this process is complete.** Completion is indicated by *steady* FIND and STOW LED's. If no upgrade is detected or the upgrade is an older version than what is already installed in the controller, an upgrade will not take place. **NOTE:** The controller will not permit installing previous numbered (older) upgrades. It will only recognize upgrades with a higher number than the last one stored.



## **LOG FILES**

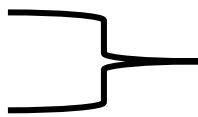
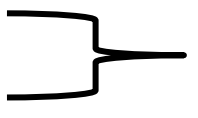

Log Files are a diagnostic tool for monitoring the system as it goes through its various routines. The Log Files are created in the Log Files directory folder which is located in the root directory. If there is not a Log Files directory folder, the Nomad SD2 will create one at initialization. The memory card must not be write-protected for Log Files to be created and stored. If it is write-protected the Nomad SD2 will ignore the card. The latest log File is the one with the highest incremental number in the file name. To read a log file, simply open it using Word Pad or any other Text Editor. The Controller creates a new Log File upon every initialization and every time it locks on satellite.

## **ERROR MESSAGES**

The Nomad SD2 has internal diagnostic capabilities that will indicate when a Critical Error has been detected. If a critical error occurs, the STOW and FIND LED's will blink simultaneously with one second intervals. The number of repetitions will indicate the specific number code of the error. After a two (2) second pause the Nomad SD2 will blink out the error number again. The system can not function after experiencing a critical error. The unit will have to be shut OFF and restarted (see Test Dish.) The Nomad SD2 will also record a text message indicating the error into the Log File provided an SD card was inserted at the time of the error. If the card was not inserted at the time of the error simply turn OFF the power and insert the SD card and turn ON the power to the Nomad SD2 and press FIND. The system will produce a log file onto the SD card. This captured information can be sent to the MotoSAT Technical Support Department to be analyzed.

The following page has a list of each error, its number code, and whether or not it is a critical error.

# ERROR CODES

Error Code	Error Description	Critical Error = ! (Factory action required)	
0	NO ERROR		
1	MOTOR, MOVING	Normal Operation	
2	INVALID MODE 1	Check Configuration	
3	INVALID MODE 2	Check Configuration	
4	MOTOR, TIMEOUT EL		Check sensors
5	MOTOR, TIMEOUT AZ		
6	MOTOR, TIMEOUT SK		
7	LIMIT ERROR, EL		Check for obstructions
8	LIMIT ERROR, AZ		
9	LIMIT ERROR SK		
10	TUNER FAILURE		!
11	AGC, NO LOCK		!
12	MAIN SAT ONLY FOUND		Check for obstructions
13	MAIN SAT NOT FOUND		
14	UNUSED		
15	UNUSED		
16	NO SATELLITES FOUND		Check for obstructions
17	OVER TEMP (This code does not necessarily mean that the Nomad controller has a problem. It indicates that the temperature within the working environment has exceeded a normal operational level and could damage or affect normal operation of your electronic equipment. Correct the over temperature problem and if problem continues replace the Nomad controller. You have been warned concerning damage to your other electronics in the cabinet.		
18	DISH HEIGHT ERROR - Possible Elevation sensor failure		
19	COAX ERROR – Reverse Coax cables on back on controller		
20	UNUSED		
21	UNUSED		
22	GPS FAILURE – Press the FIND button once <i>and then press it again</i> and hold it for 3 seconds. This will bypass Return to Last Known Satellite location. If the GPS has failed to read it will also bypass the GPS and do a regular search routine.		
23	NO MAIN AFTER SKEW		
24	CRITICAL INTERNAL FAILURE		!
25	LNB POWER FAILURE		!
26	TUNER AMP ON, FAILURE		!
27	TUNER ID, FAILURE		!
28	MOTOR, FAILURE	- Check sensors	
29	COUNTER, FAILURE	- Check sensors	
30	MOUNT MISS-MATCH – Check Programming configuration		

# PROGRAMMING NOMAD SD2 CONTROLLER

## Using the Front Panel

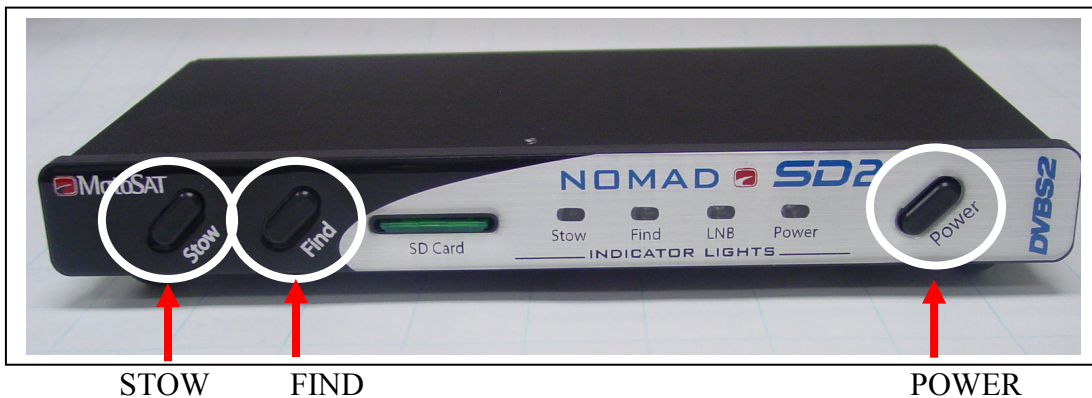
(With Version 29 Software or greater)

This process is only needed to be done once per installation.

**CAUTION!!** Do not confuse this software with any earlier versions. If you have a NomadSD.dat file on your SD Card Remove it from the Root Directory FIRST. Failure to do so will cause your Configuration that is stored on the NomadSD.dat file to remove any programming that you may do through the front panel.

The Nomad SD2 Controller can be programmed in simple and easy steps. The **STOW/FIND** and the **POWER** buttons will allow you to configure your controller properly.

### NOMAD SD2 CONTROLLER



#### Entering into the Configuration Mode

- Hold down the **STOW and FIND buttons** and while continuing to hold, turn the power on using the **POWER ON button**. Release the POWER button but continue to hold the STOW and FIND buttons for an additional 10 seconds or until you see the STOW and FIND LED's **turn OFF, then turn ON again** then release. You are now ready to proceed. If that does not happen, repeat the above process until it does. This will put the controller into the Configuration mode (similar to what you do or have done with the Nomad 2/3 Controller to enter into the Programming Mode.)

# CONFIGURING

## To SET SERVICE TYPE

(Pressing the **FIND BUTTON** will toggle through SERVICE TYPE.)

- The **FIND LED** indicates the Network ID (or SERVICE TYPE) selected. It will **blink the number** of the current settings, pause, and the repeat the pattern according to the following table:

		MOUNT TYPES	
		<u>NON SKEWABLE *</u>	<u>SKEWABLE *</u>
Slow Blink	SERVICE TYPE		
	1= Dish Network	119/110	110,119
Rapid Blink	2= DirecTV	101	99,101,103,110,119
	3= Bell Express Vu	91/82	82,91
	= SHAW DIRECT SEE “SHAW DIRECT CONFIGURING”**		
	5= Dish Network EAST	61.5/110/119	N/A
	6= Dish Network WEST	110/119/148	N/A
	7= DirecTV ENHANCED	101/119	N/A
	8= Dish Network HD	110/119,129	110,119,129

**Show Mode** can only be entered using the SD Card. See PROGRAMMING NOMAD SD2 CONTROLLER Using the SD Card

**\*\*SHAW DIRECT CONFIGURING** – SIMPLY LOAD SOFTWARE REVISION 1000 OR HIGHER. CONFIGURING IS AUTOMATIC.

**\*NOTE:** A slash (/) between the satellites indicates the system will only see one satellite at a time. A comma (,) between the satellites indicates the system will see all these satellites at the same time.

Once eight (8) rapid blinks is reached the process will start back at one (1) if the FIND button is pressed again.

## To SET MOUNT TYPE

(Pressing the **STOW BUTTON** will toggle between Skewable and Non-Skewable mount configurations.)

- The **STOW LED** will indicate Skewable or Non-Skewable type mounts  
**Skewable = ON,**  
**Non-Skewable = OFF.**

Please note: In the case of Dish Network EAST, Dish Network WEST and DirecTV ENHANCED or a Star Choice mount the STOW LED will automatically be set according to the type of mount used for that particular type of configuration.

## SAVING SETTINGS

- To save the current configuration setting, turn off the unit and turn it back on again normally and that will store your settings. At this time **please perform a TEST DISH** to match the Controller to the Mount. After a successful Test Dish....

**PRESS THE “FIND” BUTTON TO ACQUIRE YOUR PROGRAMMED SATELLITES.**

# PROGRAMMING NOMAD SD2 CONTROLLER Using the SD Card

**Note:** This configuration process is **limited to Microsoft PC's**. Sorry, no Mac's at this time. To use your computer to configure your Nomad SD2 simply format the SD card to FAT32 and:

1. Select "START", "ALL PROGRAMS", "ACCESSORIES" and "Note Pad" on your computer.
2. Enter the Network Configuration number from the selection below **and place it on the first line** of the file. **Just the Network Configuration number is all that you need.**  
Note: The Freedom Dome system requires special code (see below)
3. Name this file "NomadSD.dat" and save it onto your SD Card in the root directory. Once it is used be sure to place it into the "MotoSAT Configuration File" folder. **This will improve startup time.**

This sample configuration is set for  
**003** ← 003 DIRECTV HD SL5 MODE, 5 LNB, SKEWABLE DISH

The information below is used for obtaining the Network Configuration Number for proper configuring of the NomadSD. The numbers in the first column determine the Network and mount type being used. Always include leading zeros.



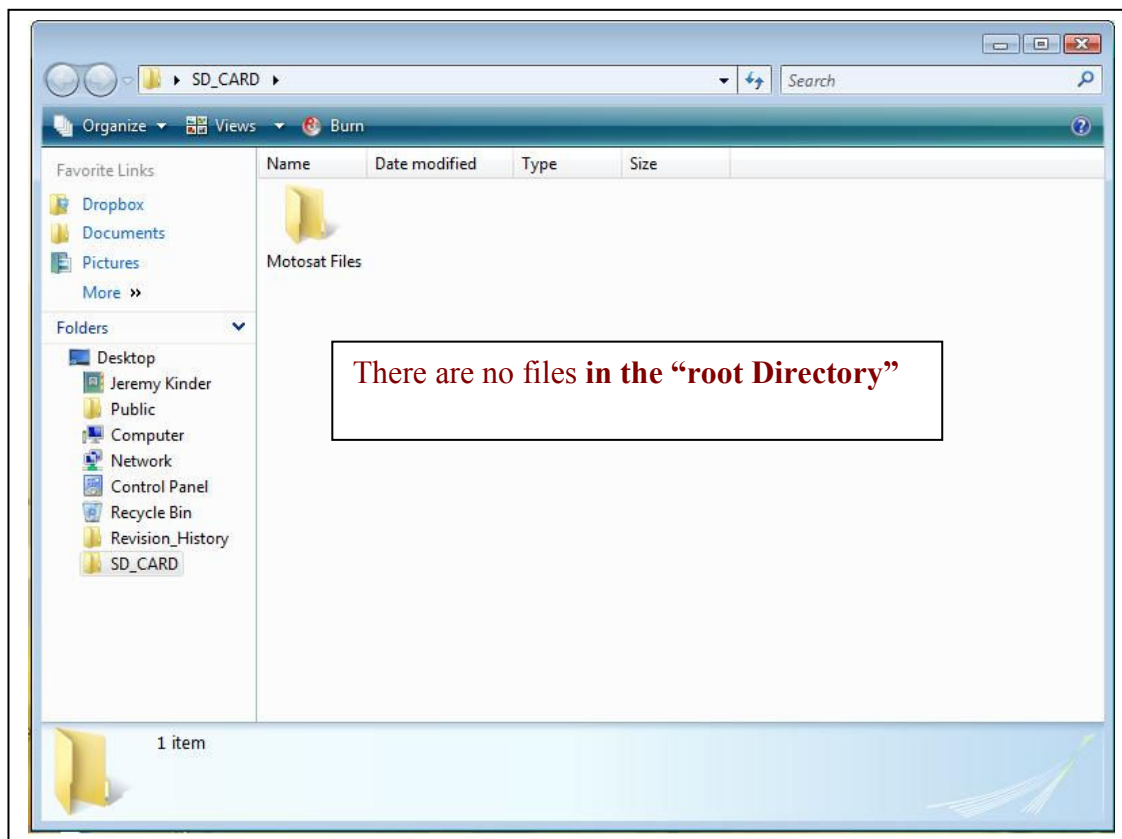
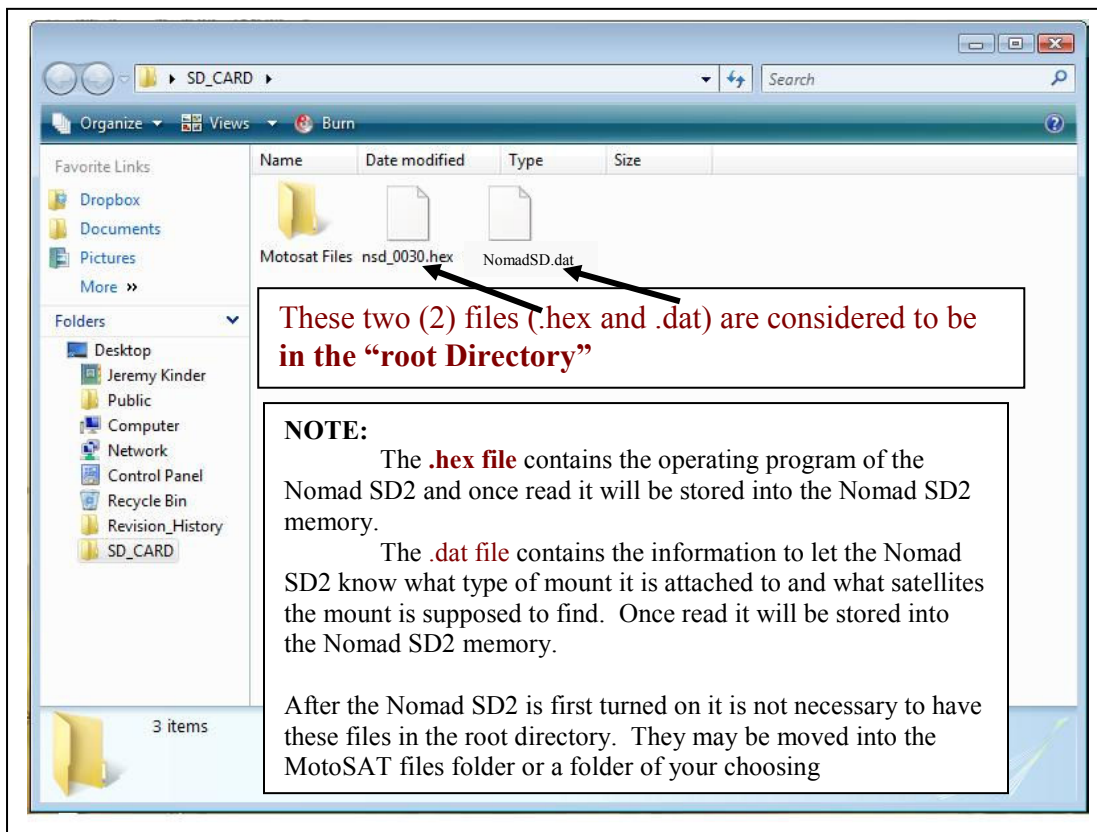
Note: NON SKEWABLE dishes will have a **single** LNB.  
SKEWABLE dishes will have **multiple** LNB's.

000	DISH NETWORK MODE, 1 LNB, NON SKEWABLE	119-110
001	DISH NETWORK <u>MD500 Style</u> MODE, 2 LNB, <u>SKEWABLE</u>	110/119
002	DIRECTV MODE, 1 LNB, NON SKEWABLE	101
003	DIRECTV HD-SL5 MODE, 5 LNB, <u>SKEWABLE</u>	99/101/103/110/119
004	BELL EXPRESSVU MODE, 1 LNB, NON SKEWABLE	91-82
005	BELL EXPRESSVU HD DP3 MODE, 3 LNB, SKEWABLE	91/82
006	DIRECTV ENHANCED MODE, 1 LNB, NON SKEWABLE	101-119
	BURN IN MODE, 18 (Factory Use Only)	
	CONTINUOUS TEST DISH MODE, SKEWABLE DISH (Factory Use Only)	
	CONTINUOUS TEST DISH MODE, NON SKEWABLE DISH (Factory Use Only)	
011	SHOW MODE, SKEWABLE DISH	
012	SHOW MODE, NON SKEWABLE DISH	
	BURN IN MODE, 8 (Factory Use Only)	
014	DISH NETWORK <u>EAST MODE</u> , 1 LNB, NON SKEWABLE	119-110-61.5
	BURN IN MODE, 4 (Factory Use Only)	
016	DISH NETWORK <u>WEST MODE</u> , 1 LNB, NON SKEWABLE	110-110-148
017	DISH NETWORK HD-DP3 MODE, 3 LNB, <u>SKEWABLE</u>	110/119/129
018	DISH NETWORK MODE, 3 LNB, NON SKEWABLE	119-110-129

**Show Mode** can only be entered using the SD Card. See PROGRAMMING  
NOMAD SD2 CONTROLLER Using the SD Card

## EXPLANATION

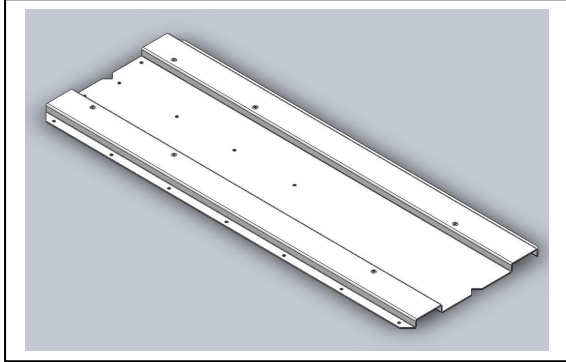
### SD Card Root Directory



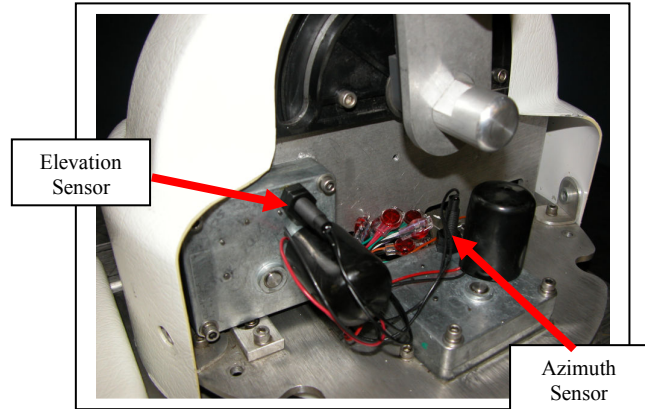


# MOUNT DEFINITION

Mounting Plate



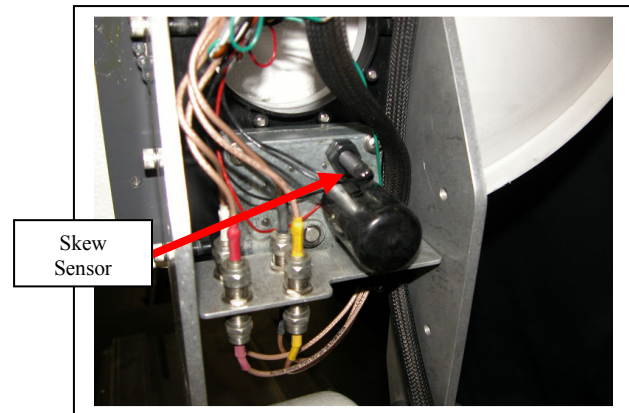
Motors and Sensors  
(Azimuth, Elevation)



Mount (HD)



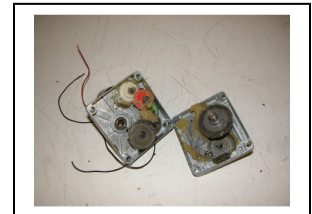
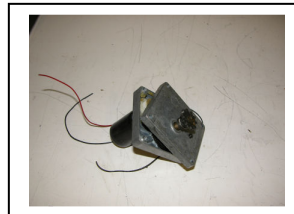
Skew Motor and Sensor



LNB Arm (HD)



When replacing a motor, improper handling can result in this..... Tape the motor gear housing together to prevent separation. Motors returned in this condition will be charged a fee.



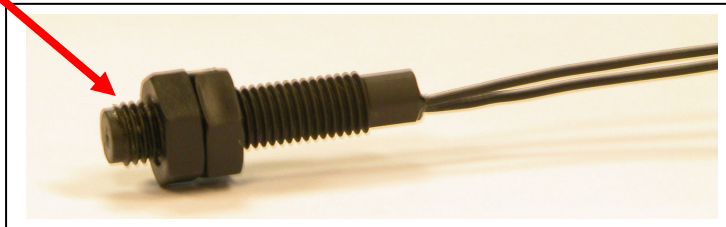


# SENSORS

All Sensors for the television mounts utilize the same sensor. It can be used in the Azimuth, Elevation or Skew motor assemblies.

Depth into the gearbox assembly is important. The lock nuts are in place to keep the sensor at the proper predetermined depth. A good rule of thumb is 5 ½ threads from the end of the sensor to the first nut.

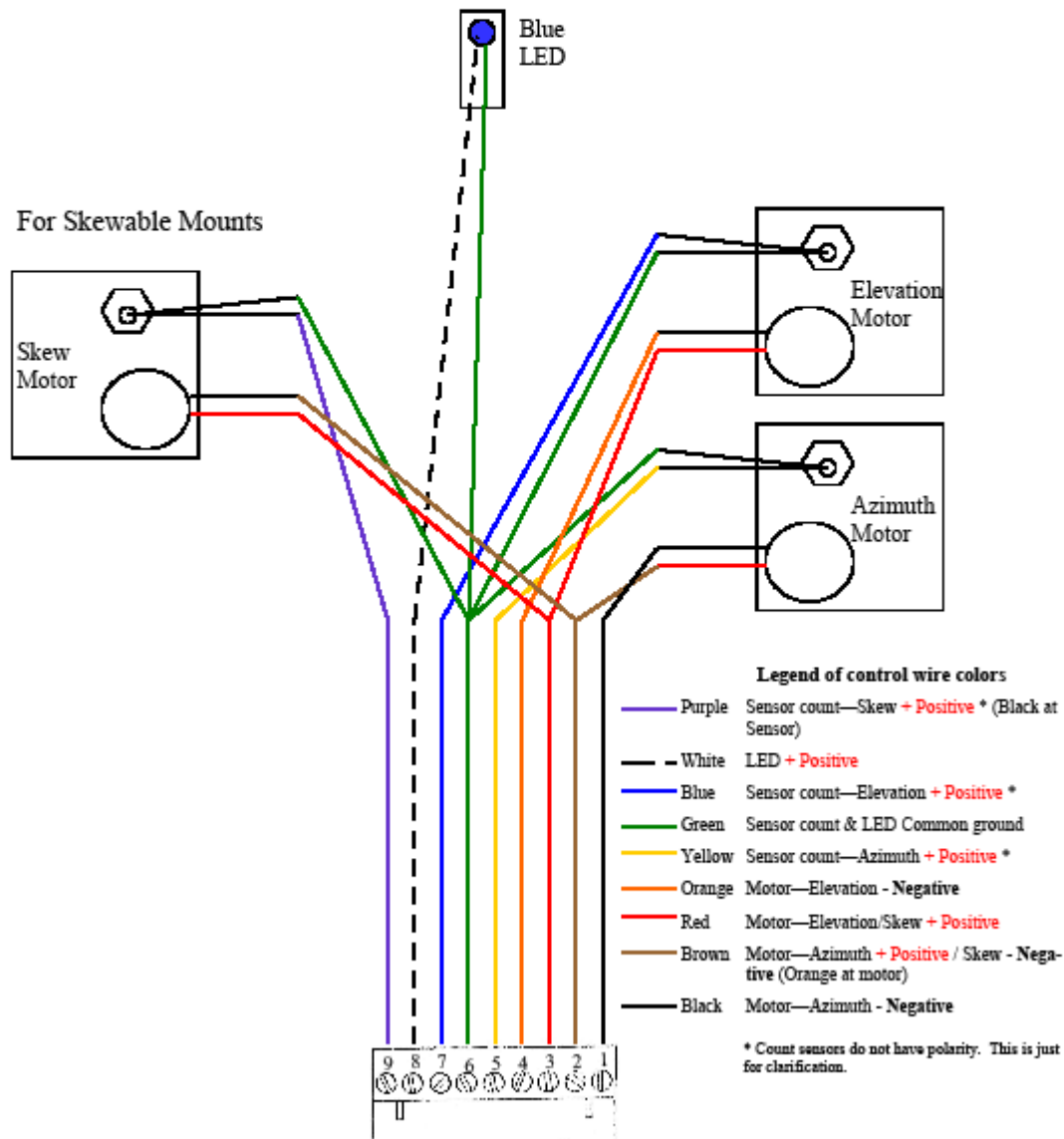
5 ½ threads



## NOTE:

1. The **depth** of the sensor is common for all television motor assemblies.
2. Use care in **handling** the sensor. Do not pry or put into a bind as breakage can occur. The sensor is actually a glass bead encapsulated into plastic.
3. When handling motors use care as the case can separate causing the motor gearbox housing to **come apart** and prove to be unusable.
4. Scotch Locks are **splicing** devices which will aid in sensor replacement when used properly.
5. Take care in locating the **proper wire** to splice. Do not mistake the motor wire for the sensor wire. See Wiring Diagram

# WIRE SCHEMATIC FOR ALL T.V. MOUNTS (22 AWG)



## **3-YEAR LIMITED WARRANTY**

### **FOR NEW SYSTEMS PURCHASED AND INSTALLED THROUGH A CERTIFIED DEALER**

#### **DETAILS BELOW**

*MotoSAT designs and manufactures high quality equipment and makes every effort to insure that you are getting the most reliable product available. In the event your product should fail please follow the guidelines set below.*

#### **90-DAY SERVICE AND FREIGHT WARRANTY GUIDELINES**

##### **90 DAY SERVICE**

- MotoSAT will cover in the first 90 days from date of installation pre-approved dealer piece rates for removal, reinstallation and alignments of any defective component manufactured by MotoSAT.
- Conditions of the warranty:
  - Customer agrees to take his vehicle to an approved MotoSAT service center or agrees to pay the travel time for the approved MotoSAT Service Technician.
  - The service appointment must be pre-approved by the MotoSAT Warranty/Support Department.
  - All reasonable charges have been discussed and accepted, in advance, by both parties.
  - New parts received for installation and found to be non-functional at the time of installation can be sent back to MotoSAT for a full exchange and compensation for time and shipping when part is verified by MotoSAT to be non-functional. If said part is found to be fully operative and functional, no compensation for time will be approved and shipping will be charged both directions.
  - If during repair the Service Technician discovers that failure is due to either damage after installation or improper installation the Service Technician will contact MotoSAT Technical Support Department for further instruction.

##### **FREIGHT**

- MotoSAT agrees to pay ground freight ONLY, in both directions, for replacement parts and components in the first 90 days of Warranty. Any other requested method of shipping will be at the sole expense of the customer.

#### **1 YEAR FACTORY LABOR, 3 YEARS PARTS AND FREIGHT WARRANTY GUIDELINES**

##### **1 YEAR LABOR**

- MotoSAT will cover factory labor rates on all new equipment and components manufactured by MotoSAT for 1 year from the date of installation.
- After 1 year from the date of installation all equipment and components manufactured by MotoSAT will be charged pre-set factory labor rates for repair or replacement.
- Refer to the MotoSAT RMA policy at the end of this warranty for part replacement options.

##### **3 YEARS PARTS**

- MotoSAT will cover all new equipment and components manufactured by MotoSAT to be free from defects in material and workmanship under conditions of normal use for 3 years from the date of installation.
- Refer to the MotoSAT RMA policy at the end of this warranty for part replacement options.

##### **FREIGHT**

- After 90 days, MotoSAT agrees to pay for ground freight ONLY, in one direction, for replacement parts and components. Any other requested method of shipping will be at the sole expense of the customer.

## **WARRANTY EXCLUSIONS AND LIMITATIONS**

- This warranty extends only to the Original purchaser and is not transferable
- This warranty does not cover damage due to accident, misuse, abuse, neglect.
- This warranty does not cover damage due to wind, lightning, power surges, fire, flood or any other act of nature.
- This warranty does not apply to any component or product not manufactured by MotoSAT, included but not limited to:
  - Modems, (IRU/ITU), feed horn, LNB, transmitter, dish face and Satellite TV receiver.
- All components not manufactured by MotoSAT are subject to separate warranties issued by the Original Equipment Manufacturer (OEM).
  - Hughes.Net, Prodelin, UnaSat, IDirect, etc.
- MotoSAT shall in no event be liable for damage to or loss of any equipment or consequential damages. Including but not limited to damages to other equipment resulting from the installation or operation of the MotoSAT components.
- This warranty does not cover installation by Dealers or individuals who are independent contractors and not employees of MotoSAT.
- MotoSAT reserves the right to make changes in design or improvements in its products without the obligation to incorporate the same in any product previously manufactured.
- MotoSAT internet system and equipment must be initially installed and/or upgraded by MotoSAT factory certified Installers. In the event system installation or upgrade is not preformed by a MotoSAT certified installer all warranty on said equipment is void.

**NOTE: Consult your dealer/installer for any installation warranty provided by the dealer/installer.**

## **WARRANTY SERVICE**

- To receive the benefits of this warranty you **must** complete the enclosed registration form and mail it to MotoSAT within 30 days from the date of installation.
- Our Internet Technical Support Department is available 24 hours a day 7 days a week at 800-247-7486, listen for your options for day, evening and after hours/weekend support.
- Our TV Technical Support Department is available Monday through Friday from 8am – 5pm (MST) at 800-247-7486 ask for Satellite Television support.
- For support concerning your Internet Service please contact your VAR or ISP, these are the companies you are paying for your internet service.
- For support concerning your Satellite Receiver please contact your Satellite TV provider; DirecTV, Dish Network, Bell Express VU or Star Choice.
- For additional after hours support or issues relating to the installation or operation of this product please contact your installing dealer.

## **EXPIRED WARRANTY**

- MotoSAT offers replacement parts, technical support troubleshooting tickets, support warranties and extended warranties for all out of warranty customers at a fair price. Please contact MotoSAT Technical Support for assistance in determining your best options and available pricing for these services.
- MotoSAT does not cover the cost of removal, reinstallation, alignment or any other service performed under this warranty.

## **WARRANTY EXTENSIONS AND SERVICE CONTRACTS**

- For information concerning extended warranties and service contracts that can be tailored for your individual needs please contact MotoSAT support.

4/23/2008

## **MotoSAT RMA POLICY**

Return material Authorizations (RMA's) may be issued by the MotoSAT technical support and sales departments.

MotoSAT factory certified dealers/installers may request RMA's via Email and phone at their discretion with or without troubleshooting assistance understanding they are subject to same terms and conditions below.

RMA's have 3 designation subsets.

1. RA = Repair and Return: The customer sends in the defective part or product and we repair it in house and return it to them. Depending on the customer's warranty status we may charge them for the price of the component and/or the labor cost to repair it sometimes including shipping costs. This allows for MotoSAT to determine exactly what the problem is and enhance product to avoid the same issues in the future

2. RS = Return Swap: MotoSAT sends the customer a replacement part and after the customer has changed out the part, they then return to us the "core" item that is perceived to be defective. MotoSAT will only offer this option if the customer is within warranty and willing to provide a credit card to guarantee return shipment of the bad part.

The RS designation is a convenience to the customer and in consideration of this convenience the customer needs to accept full liability for this type of RMA. When it is determined that a customer needs a part replacement MotoSAT support will read an exact script (Appendix A) of terms and conditions and expect the customer to verbally agree to the terms and conditions before sending the part. The support agent will also add the acceptance to the customer's notes in our warranty database. These same terms and conditions will be sent in writing with each part shipped as an RS. The terms and conditions will reflect the following:

A. If the customer wishes to receive the item in advance they will be required to acknowledge that they were instrumental in diagnosing probable issues with the item and if the item is found to be without defect, the customer will be liable for all shipment costs and a 25% restocking fee of the item.

B. If the customer wishes to receive the item in advance they will be required to provide a credit card number to ensure return of the original item that is perceived to be defective. The customer will be given 10 business working days to return the item beginning with the day it is received by the customer from MotoSAT. If on the 11th business working day after the item is received by the customer from MotoSAT the "core part" has not been received by MotoSAT from the customer, the customer will be charged for the full retail value of that item to the credit card given. Customers requiring International shipping may be an exception to this rule and dealt with on a case by case basis.

C. In the case of a dealer requesting an RS a credit card will not be required if the dealer has credit terms with MotoSAT.

D. If the Customer can not agree to all the terms and conditions of receiving an RS (item in advance) they will be directed to use the RA option.

3. RN = Part Sent no return required: This occurs in the case of misc. nuts and bolts plastic pieces etc. that would not help MotoSAT in any way if the item was returned.

Any item being returned to MotoSAT must be properly packaged and addressed including return material authorization (RMA) number to:

MotoSAT  
Attn: Technical Support  
(place RMA number here)  
1955 S. Milestone Dr.  
Salt Lake City, UT 84104

Note: Items received without RMA numbers clearly marked on the outside of the package could experience receiving delays. MotoSAT does not accept responsibility for these delays. In the event this item is an RS designation the customer is still liable for RS terms and conditions mentioned in part 2.B. above.

4/23/2008

## Appendix A

Our Phone support technicians will follow the script below to ensure there is no misunderstanding in regards to our RS RMA designation.

"For your convenience MotoSAT offers to send you replacement parts in advance under the condition that you agree to the following terms.

- You agree to provide MotoSAT with a valid credit card to guarantee return shipping of the original item. If the item is not returned to MotoSAT within 10 business working days beginning with the day it is received. You may be charged for the full price of the item.
- You agree that you have been instrumental in diagnosing probable issues with your system and understand that if the item being returned has no defect, you may be subject to further shipping charges and restocking

fees.

Will you agree to these terms?"

[Customers willing to agree to the terms will also receive the following script:]

"To help avoid further charges and shipping costs, please ensure the RMA number I will provide you with is clearly marked on the outside of the package".

[Customers unwilling to agree to these terms will be directed to follow the RA designation.]

#### **MISREPRESENTATIONS**

- MotoSAT has not authorized anyone to make representations or warranties other than the warranties contained herein.
- This warranty gives the purchases specific legal rights which may vary from state to state. Some states do not allow exclusion of limitations of incidental or consequential damages or allow limitations on the duration of an implied warranty.

**MotoSAT**  
**1955 S. Milestone Dr.**  
**Salt Lake City, UT 84104**  
[www.motosat.com](http://www.motosat.com)  
1.800.247.7486

# Notes

Date of Purchase \_\_\_\_\_  
DD / MM / YY

Installing Dealer \_\_\_\_\_

Telephone Number \_\_\_\_/\_\_\_\_/\_\_\_\_

System Model Number \_\_\_\_\_

Serial Numbers \_\_\_\_\_

Repairs \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

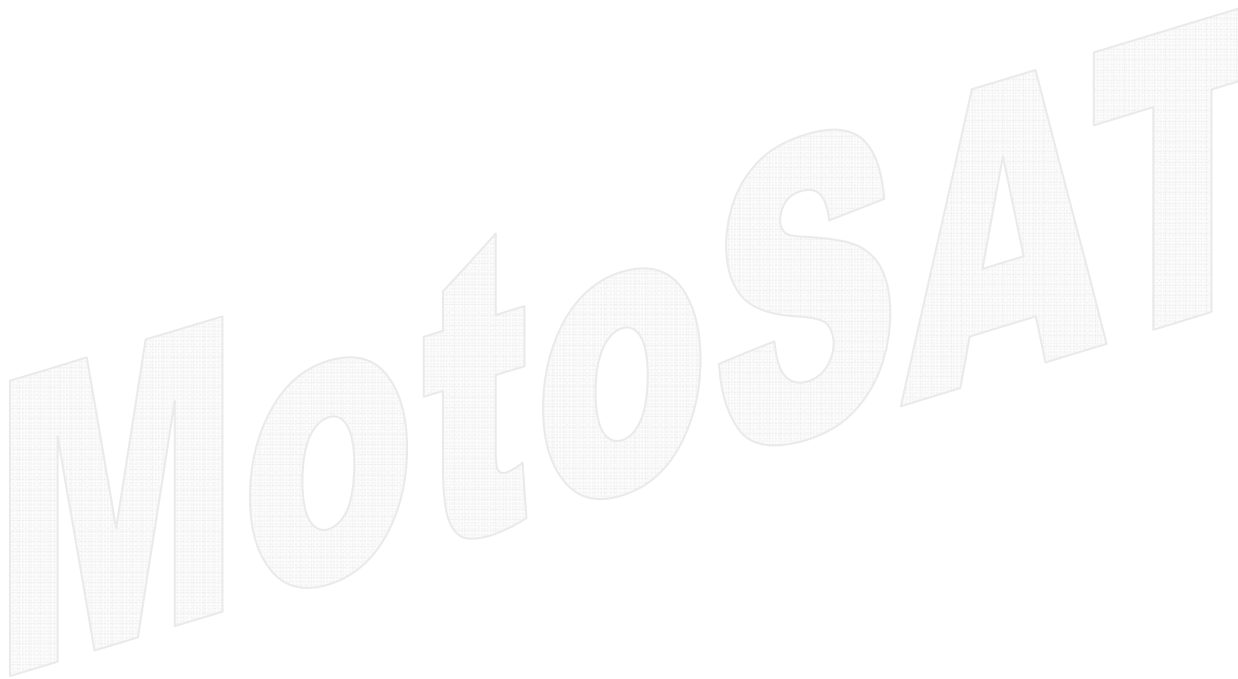
Version of Software

Date \_\_\_\_\_ Rev. No. \_\_\_\_\_

Date \_\_\_\_\_ Rev. No. \_\_\_\_\_

Date \_\_\_\_\_ Rev. No. \_\_\_\_\_





**For additional information at this time contact  
MotoSAT Technical Support @ 800-247-7486**

**The MotoSAT Technician will ask you**

- 1. What is your of Mount “Type” (Skewable or Non-Skewable)**
- 2. What “Service” do you subscribe to**
- 3. If you feel that it is a Warranty problem then be sure that you have your system registered before you call else it will be treated as a non-warranty situation.**

Thank you for your assistance,

**Your Friends at MotoSAT**

**MotoSAT  
1955 South Milestone Dr.  
Salt Lake City, UT 84104**

**Tele 800-247-7486  
Fax 801-972-5407**

**[www.motosat.com](http://www.motosat.com)**